

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested. Claims 9-15 are pending, Claim 8 having been canceled without prejudice or disclaimer, Claims 9 and 11-14 having been amended, and Claim 15 having been added by way of the present amendment. Support for Claim 15 is found in original Claim 8 for example as well as in Figure 3 (e.g., finger 26, as an example). Therefore, no new matter is added.

In the outstanding Office Action, Claims 8-10 were rejected as being anticipated by Fujioka (U.S. Patent No. 4,753,004); Claim 8 was rejected as being unpatentable over Crozier et al. (U.S. Patent No. 5,752,729) in view of Yakou et al. (U.S. Patent No. 5,127,692); Claim 12 was rejected as being unpatentable over Crozier in view of Yakou et al. and in further view of Sperry (U.S. Patent No. 3,785,691); Claims 13 and 14 were rejected as being unpatentable over Crozier and Yakou et al. and in further view of Paget (U.S. Patent No. 3,383,286); and Claim 11 was indicated as containing allowable subject matter.

Applicants appreciatively acknowledge the identification of allowable subject matter.

In reply, Claim 8 has been canceled and replaced with new Claim 15 which is believed to patentably define over the asserted prior art. The subject matter of the present invention relates to the grasping and lifting of barrels that can be stored in narrow wells. As a consequence, access to the lower face of the barrels can be problematic. The present invention, for example as defined by amended Claim 15, addresses this problem by including a grasp system that grasps the upper surface of the barrel by using at least one suction cup mounted to a support for sucking the upper face of the barrel. The grasp system also including a centering mechanism that is mounted on the support and includes fingers that can be extended radially. Furthermore, a movable arm is included, where the arm is vertical and vertically slidable with respect to the support alongside the peripheral surface. The movable

arm includes a finger at a lower end thereof. The barrel grasping and lifting device further includes means for moving the finger under the lower surface. A nonlimiting example of such means is found in the specification, for example at page 7, lines 8-19 as well as Figure 6, for example.

An advantage of such a device is the ability to lower the support and center it on the barrel, and then the arm is lowered along the barrel. As centering is made before the arm is lowered, the arm does not interfere with the barrel even if the device in the barrel were offset in the well. Furthermore, the vertical shape of the arm and the vertical sliding aspect enables the arm to be lowered even when narrow clearance is present between the barrel and the well.

Comparing Claim 15 to Fujioka, Fujioka relies on a lifting device for a semiconductor chip in which centering is made by radial converging moments of the peripheral fingers for clamping the chip between them (column 1, lines 44-47 and column 3, lines 47-63). In contrast, Claim 15 requires a centering mechanism that is provided on a same support as the suction cup at an upper part of the device as well as an arm having a supporting finger which is vertically slidable with respect to the support. Thus, the fingering mechanism is not present on the arm aside the product to be lifted, which is in direct contrast to Fujioka.

An advantage with the present invention that is not present in Fujioka is that the arm without the centering function is less bulky, and does not require any part facing the peripheral surface of the barrel that moves horizontally, only the finger at the lower end being moved under the surface of the barrel. The arm can thus be slid into narrow clearances between the barrel and the well, which would not be possible in Fujioka which pertains to another industrial field and does not teach or suggest an arm sliding vertically alongside the product to be lifted. In contrast, Fujioka relies on a spindle 6 that slides in a support frame 1 above the product. Only the fingers extend at the level of the product. As a consequence, it is respectfully submitted that Fujioka does not anticipate the invention defined by Claim 15.

Likewise, it is respectfully submitted that Fujioka does not anticipate dependent Claims 9 or 10 which depend therefrom.

Claim 8 (now Claim 15) was rejected over the combination of Crozier et al. in view of Yakou et al. Crozier et al. is directed to a device for lifting a slab in which suction cups 22 and 23 are completed by a mechanism extending around the slab and having lower support fingers 24' and 25' for supporting the slab from the underside. Also, Yakou et al. describes a centering mechanism having radially moving fingers. However, neither Crozier et al. nor Yakou et al. teach or suggest a vertical or vertically sliding arm having a finger for supporting the product to be lifted from the lower surface. The arms 24 and 25 in Crozier et al. are pivotable about the horizontal axes from the raised positions 24a and 25a. Yakou et al. does not teach any mechanism for supporting the product from the lower surface and thus does not cure the deficiencies with regard to Crozier et al. Therefore, no matter how Yakou et al. and Crozier et al. are combined, the combination does not teach or suggest all of the features of Claim 15.

Since each of the other dependent claims is based on a combination of Crozier et al. in view of Yakou et al., and because the tertiary references do not teach or suggest the features that are absent in Yakou et al. and Crozier et al., it is respectfully submitted that each of the dependent claims also patentably defines over the asserted prior art. Consequently, it is respectfully submitted that the invention defined by Claims 9-15, as amended, is patentably distinguishing over the prior art.

The present application is therefore believed to be in condition for formal allowance and an early and favorable reconsideration of this application is therefore requested.

Respectfully submitted,

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